Chemical and Biological Defense Information Analysis Center

CBIAC

Serving the CB Defense Community

NEWSLETTER

Fall -1995 Vol. 1, No. 4

A U.S. Department of Defense Information Analysis Center (IAC) sponsored by the Defense Technical Information Center (DTIC)

IRAQ DISCLOSES BIOLOGICAL WEAPONS CAPABILITIES

By *Mary Frances Tracy*

Alleged Iraqi biological weapons sites

History is frequently repeated, and Saddam Hussein's latest disclosure of defiant violation of the United Nations (U.N.) Security Council resolutions forbidding Iraq to possess or develop weapons of mass destruction is simply another example of this fact.

As reported by Robin Wright in the Los Angeles Times, 6 Sep 95, Iraq has provided their most comprehensive disclosures about the extensive biological weaponry capabilities within the Iraqi borders. The disclosures are coming on the heels of the defection to Jordan of Iraq's top arms procurer, Lt. Gen. Hussein Kamel al-Majid, son-in-law of Saddam Hussein. These disclosures are being revealed following five years of Iraqi government insistence that there was no biological weapons program.

The U.N. is reporting Iraq's disclosure as one of the most sophisticated in the history of biological warfare. The viruses and toxins being developed were instruments of war representing innovative thinking and involving a large monetary investment. For instance, over 150 scientists and senior technicians were involved in the biological weapons program.

The type of biological weapons under development included viruses and incapacitating agents, which were intended to seriously incapacitate rather than kill enemy troops. This logic is based on the fact that wounded soldiers would require longer care on the part of the enemy, and would be a bigger drain on their resources.

Also reported by Robin Wright in the Los Angeles Times were some of the various viral agents accessible for use by the Iraqis including hemorrhagic conjunctivitis, a highly transmittable virus, which in the best case, causes temporary blindness and in the extreme case, causes the eyes to bleed. Another virus in development would cause chronic diarrhea which is incapacitating to troops and deadly in children. The third virus reported was camel pox which causes lesions. All of these viruses have never been proposed for use as biological warfare agents. The mycotoxin admittedly produced by Iraq was yellow rain. This causes the lungs to bleed and usually brings death. The most unusual agent tested in Iraqi laboratories was a wheat-cover smut, which produces a purplish-black growth on the grain stem, and kills the entire plant. U.S. News & World Report, 11 Sep 95, also reported that Rolf Ekeus, U.N. Disarmament Chief, learned that Iraq had produced tons of deadly substances. These included 1,500 gallons of anthrax toxin which was loaded into 50 bombs and 10 missile warheads. Botulinum toxin, which attacks the nerves and chokes its victims to death, was produced in the massive quantity of 3,000 gallons and poured into 100 bombs and 15 missile warheads and sent to airfields. The Iraqis have also produced more than 78 gallons of a bacterium that causes gangrene. Another deadly agent, the toxin ricin, which is derived from beans of the castor-oil plant, had been tested in artillery shells. The Los Angeles Times also reported that the Iraqi facility at Al Fallujah, which currently extracts castor oil, is supposedly dedicated to making brake fluid.

U.S. News & World Report, 11 September 1995, stated that additional Iraqi centers allegedly dedicated to biological and chemical weapons development included Muthanna, Salman Pak, Al-Kindi, and Al Hakam.

See "Iraq Discloses Biological Weapons Capabilities"
Continued on Page 3

On the Inside

THOUGHTS FROM THE PENTAGON

Dr. Ted Prociv, Deputy Assistant to the Secretary of Defense (Chemical and Biological Matters)

By Dr. Ted Prociv

This is the first of our quarterly updates designed to keep the Chemical and Biological Defense (CBD) community abreast of the most recent activities in the Pentagon. Our office is the Office of the Secretary of Defense (OSD) staff focal point for three major areas of importance: the DoD Chemical and Biological Defense Program, the DoD Chemical Demilitarization Program and Chemical Warfare (CW) and Biological Warfare (BW) Arms Control Programs.

DOD CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM

Public Law 103-160, the National Defense Authorization Act for FY 1994 (Title XVII) directed significant management changes to the CB defense program. The Public Law calls for more detailed oversight of the program, an increased emphasis in joint service programs and coordination, designation of the Army as the Executive Agent for CB defense, consolidation of CBD budgets at the defense level, submission of annual reports to Congress and Defense Acquisition Board (DAB) reviews of the program.

The CB Defense Program has undergone scrutiny under a new management oversight process which evolved from a modified DAB process. Dr. Paul Kaminski, the Under Secretary of Defense for Acquisition and Technology has directed a fundamental change in the DAB process. Our staff organizations are now participating as members of integrated product teams (IPTs), which are part of a greater Overarching Integrated Product Team (OIPT). We have had a series of OIPT meetings which addressed various issues concerning implementation of Public Law 103-160. The new process is innovative and functional. Rather than checking on the program and executing offices on a six month basis, as was done under the former DAB concept, OSD and component staffs now participate on an on-going basis with the program teams, resolving issues as they arise.

The CB Defense program continues to receive excellent support from our Joint Program Office for Biological Defense (JPO-BD), headed by BG Walt Busbee. Over the past two years, the JPO-BD has coordinated a number of key biological defense projects, including the BW vaccine acquisition program, the Joint Biological Point Detection System and the Biological Stand-Off Detection System. The requirements for these JPO-BD managed detector projects were developed by a Joint Service Working Group (JSWG), and responsibilities for project execution have been clearly defined by the four Services.

The BW vaccine acquisition program was subjected to a modified DAB process which ultimately approved the concept of a "prime contractor" mechanism as opposed to our prior approach of a single, multi-purpose vaccine production facility.

Our office recently participated in the second annual Science and Technology Review of CB Defense technology efforts. The two-day conference was ably run by Joe Vervier and his staff at ERDEC. The meeting provided detailed briefings supporting the functional areas of detection, individual protection, collective protection, decontamination and modeling and simulation. We continue to make significant progress in these areas, looking to avoid duplication and redundancy and ensuring proper prioritization of programs.

CHEMICAL DEMILITARIZATION:

The Army continues to be the Department of Defense Executive Agent for the program, and our office provides oversight from the OSD level. Due to the inherent complexity and large size of the chemical demilitarization program, an intensive management approach is in place. The program was designated as a Major Defense Acquisition Program (MDAP) in December of 1994. By managing the program as an MDAP, we ensure the program receives the same management scrutiny reserved for the Department's most complex acquisition programs. Through the DAB process, the program will be scrutinized for progress, cost effectiveness, technological improvement and management controls.

Historically, the Congress has provided significant direction for the Chemical Demilitarization program. There are numerous Public Laws which impact the program. Most recently, on July 13, 1995, the House National Security Military Procurement Subcommittee held a hearing on the Department of Defense's Chemical Demilitarization Program. Three key witnesses represented the Department: the Honorable Gil Decker, the Assistant Secretary of the Army, for Research, Development and Acquisition; the Army Acquisition Executive, Major General Robert Orton, our new Program Manager for Chemical Demilitarization; and myself.

During the hearing, several Congressmen questioned the fiscal prudence of constructing demilitarization incineration facilities at every chemical stockpile site. The members indicated transportation options could possibly reduce overall program costs. We expect that, depending on final Congressional direction, the Army will now be allowed to conduct studies examining transportation options.

Cost reduction options also include a need to re-evaluate the Department's position on the baseline technology. The Program Manager for Chemical Demilitarization has moved out quickly to issue a "sources sought" request to industry for alternative approaches to the destruction of agents at our bulk sites.

See "Thoughts From The Pentagon"
Continued on Page 9

TAT FOCUS

Spiral Technology (S-TECH) Decision Aid

S-TECH, a computerized decision aid, is a tool for the timely analysis of potential chemical warfare agent production sites which provides visual signatures of those sites. S-TECH users enter a variety of information parameters including the specific chemical of interest selected from a list of chemicals within the model's inventory, the chemical manufacturing process, and the desired quantity of production; S-TECH responds with an AutoCAD visual representation of what the chemical plant may look like and the necessary production materials and utilities. While the model was initially designed for treaty verification applications, it can easily be modified for other uses such as process plant layouts.

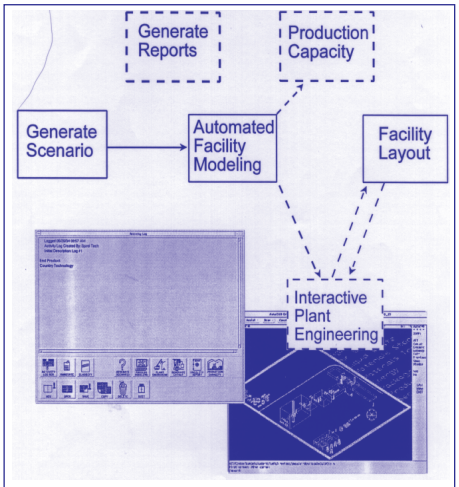
Computer technology is used to model the feedstock, chemical processing, energy, and waste requirements for various chemical agent compounds. The information can be coupled with country specific infrastructure and technology databases to identify likely equipment and potential structures (chemical processing configurations) that could be used to manufacture and package compounds. By linking country and technology-specific methods with user-entered production rates, a computerized system can provide the analyst with the equipment sizing, structure sizing, and storage requirements of a potential facility.

The current S-TECH system utilizes several modules to provide this capability. Traditional chemical engineering calculations (manual and/or CHEMCAD models) are used to derive capacities and process inputs and outputs depending on the compound and various synthesis methods. These parameters are used by AutoCAD to represent the major structures and potential configurations required for a given production capacity. By choosing a given agent or precursor, possible reaction chemistries, feedstocks, and various structure capacities, the analyst can make better judgements about potential chemical production capabilities by tracking and presenting decisions and information established during engineering analysis.

S-TECH has far reaching applicability to the arms control community. The tool can be used for chemical weapons counter-proliferation purposes by accounting for changes in production levels, technological capabilities, or engineering practices in foreign countries. It also improves timeliness and quality of site assessments and the ability to evaluate alternate scenarios.

Chemical companies could use an adaptation of S-TECH to evaluate their current plant configurations to address Chemical Weapons Convention (CWC) inspection impacts. This capability could be used to indicate processes or plant configurations that may require modifications to comply with the CWC requirements.

For additional information contact the CBIAC: Tel: (410) 676-9030
Fax: (410) 676-9703



Functions of the S-TECH decision aid

Editorials Welcomed!

If you would like to submit an editorial for publication in our next issue of the CBIAC Newsletter, please contact Mary Jo Waters at the CBIAC. For those interested in submitting editorials, we ask that you provide us with an electronic copy as well as a hard copy of your editorial.

POST ENGAGEMENT GROUND EFFECTS MODEL

The Lethality Division of the Weapons Directorate of USASSDC has developed the Post Engagement Ground Effects Model (PEGEM), Version 1.0. PEGEM, which provides chemical and biological weapon (CBW) hazard assessment in the form of ground effects, represents a true multi-service effort with contributions from the Army, Navy, Air Force, and their contractors. Primary development and model integration has been carried out by MEVATEC Corporation in Huntsville, Alabama. Output of PEGEM is in the form of CBW agent coverage, as well as resulting estimated casualties at user-specified times-of-interest. Development of PEGEM supports theater missile defense (TMD) system acquisitions and provides a valuable tool to evaluate individual and integrated TMD systems. For more information, call Dr. Julius Lilly at (205) 955-3059, or send a request to USASSDC, Attn: CSSD-WD-L, P.O. Box 1500, Huntsville, AL 35807.

"Iraq Discloses Biological Weapons Capabilities"

Continued from Page 1

Why is Saddam Hussein now revealing more information on Iraq's weapons of mass destruction? According to Time magazine, 4 Sep 95, the motivating issue is the relief of sanctions placed on Iraq following the Persian Gulf War.

The U.N. sanctions ban nonhumanitarian trade and clamp an embargo on arms sales to Baghdad. With the U.S. presidential election season at hand, Iraq believes Mr. Clinton would never go along with the U.N. decision to lift the embargo for fear of appearing "soft". Therefore, to hopefully eliminate the sanctions before the point of no return, Iraq has promised "100%" cooperation with the U.N. However this cooperation and promise of disclosure has been voiced by Iraq before, so, will history repeat itself?

TECHNOLOGY TRANSFER

This column serves the CB community by showcasing new technologies, by communicating industry needs and by providing sources of additional technology transfer information. The CBIAC Newsletter invites written submissions from its' readers for this column. Please submit copy to Don McGonigle. (mcgonigl@battelle.org)

Biodetection Technology

Since the Persian Gulf War, DoD has emphasized biodetector development. Commercial-off-the-shelf (COTS) equipment from environmental and medical laboratory instrument manufacturers form the heart of the U.S. Army Biological Detection System (BIDS) and the U.S. Navy Interim Biological Agent Detector (IBAD) systems. COTS systems are integrated to provide reliable detection of airborne or waterborne infectious diseases and toxins. Ongoing work in the biodetection area provides an excellent opportunity for technology transfer from industry to the DOD. Government efforts focus on modifying existing instruments and processes to enhancing sensitivity and selectivity while insuring compatibility with battlefield environments. Commercial applications for the integrated technology are also possible. Examples include monitoring ventilation/ breathing systems for disease control in hospitals or environmental pollution monitoring.

The Joint Program Office for Biological Defense (JPO-BD) is currently the principal advocate and single point of contact for all biological detection and vaccine acquisition efforts for DoD and is coordinating R&D in this area. The JPO-BD relies heavily on the pipeline of commercial technologies to speed up the fielding of effective biodetectors. JPO-BD efforts to collaborate with industry are not new. The office mandated the use of existing technologies from industry and Government labs as extensively as possible. The JPO-BD contact is Mr. Brian David, tel: (703) 681-3436.

Effective Technology Transfer

As a continuation from the last issue, we will cover real-world lessons including typical problems and solutions. It takes a concerted effort by the Government to create industry awareness of a technology. Industry does not typically understand what they need, so an active process is needed. Another major problem is that most technologies developed in Federal laboratories are incomplete from a commercial product standpoint. Significant costs are incurred in developing a reliable and marketable product, not in the technology.

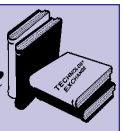
Other obstacles to participation in dual-use technology transfer projects include:

- *Lack of expenditure authority to activate/ incentivize technology transfer from developer (government or contractor).*
- *Difficulties in providing industry CRADA/TRP contracts and funding (can be legal nightmares).*
- *Lack of effective means to listen to industry's problems and to estimate costs to create marketable products.*
- *Inadequate means to select technologies that have technology transfer potential and provide funding for market surveys on the most promising ideas.*

The core of a successful transfer process involves the idea of "brokerage." This is an understanding of how to deal with industrial requirements and the ability to connect Government technology programs to solve problems. Other solutions the government needs are:

- *To communicate with industry about their problems and possible solutions.*
- *"Brokers" who know enough about technology to make good industrial connections.*
- *Close industry collaboration and cooperation with the Federal Laboratory Consortium and the National Technology Transfer Center.*
- *More industry solutions and literature that shows why various technologies are used.*
- *To take an active role looking for links between technologies and problems.*

New Book on Technology Exchange



Mr. John Lesko has recently co-edited a book with Mr. Michael Irish that focuses on lessons learned from successful technology transfer programs. The book is entitled TECHNOLOGY EXCHANGE: A Guide to Successful Cooperative Research and Development Partnerships. Similar to some previous articles in this column Technology Exchange offers specific advice, guidance, and insight for successful participation in government-industry technology partnership arrangements. The book presents "best practices" and "lessons learned" drawn from extensive analysis of successful ventures and interviews with key practitioners and technology managers both from the public and private sectors.
Technology Exchange: $29.95; 178 pages; soft-cover; ISBN 0-935470-86-7. To order call: (800) 451-3543

DTIC HAS MOVED TO FORT BELVOIR

The Defense Technical Information Center has moved to new quarters at Ft. Belvoir, Virginia. The 1988 Base Realignment and Closure Commission had mandated closing Cameron Station and moving its activities to Ft. Belvoir, with the relocation to be completed by September 30, 1995.

At Ft. Belvoir, all of the Defense Logistics Agency is housed in a new, energy efficient building along with the Defense Fuel Supply Center, Defense Contract Audit Agency, and DTIC.

DTIC's new address is:

Defense Technical Information Center (DTIC)
8725 John J. Kingman Road, Suite 0944
Ft. Belvoir, VA 22060-6218
Tel: (800) 225-3842

ONGOING AND RECENT ACTIVITIES

Current Awareness

• Mr. Francis Crimmins and Mr. Don McGonigle will be representing the CBIAC at the Worldwide Chemical Conference (WWCC) XIV, being held October 25-27, 1995 at U.S. Army Chemical School, Fort McClellan, Alabama. CBIAC Starter Kits and basic products as well as information about our Inquiry and Referral Services will be featured at our display area.

• October 30 through November 2, 1995, Mr. Francis Crimmins, Ms. Nancy Brletich, Ms. Jeanne Rosser, Ms. Sallie Dawson and Ms. Barbara Hoffman will be representing the CBIAC at the Defense Technical Information Center (DTIC) Annual Users Meeting and Training Conference which is being held at the Stouffer's Renaissance Hotel in Arlington, VA. The CBIAC will staff a tabletop display at this conference.

Information Acquisition and Processing

• Documents in the areas of chemical weapons treaty technologies, NBC survivability, detection, and toxicology were added to the CBIAC collection during fourth quarter, FY95.

Inquiry and Referral Services

• Last quarter the CBIAC received 163 inquiries. Over 11% of the inquiries for last quarter were related to specific documents while more than 21% were questions in the area of NBC Survivability. Sixteen percent of the inquiries were requests for additional information on the CBIAC. Shown in the diagram are the number of inquiries received from various agencies for fourth quarter, FY95.

Products

• For the title, price and distribution of the most recent CBIAC products, see our Products List included in the Spring, 1995 issue of the CBIAC Newsletter or the CBIAC Starter Kit.

Technical Area Tasks (TATs)

• Since the last newsletter, 22 TATs have been awarded and effort was added to 17 ongoing tasks. Two tasks have been completed. As of 30 September, 65 TATs have been awarded and work has been added to 28 tasks. Total value of TATs awarded under our new contract is over 14.7 million dollars. Twelve TATs under the old contract were completed.

• Do not hesitate to contact Judith Shetterly at the CBIAC (410 676-9030) if you would like further information on a CBIAC TAT. In order for us to help you most efficiently, please furnish the Government Contract Number you are working on (if any), the reason(s) you want the information, and your company address and phone number. We need this information in order to obtain release of information from the TAT sponsor.

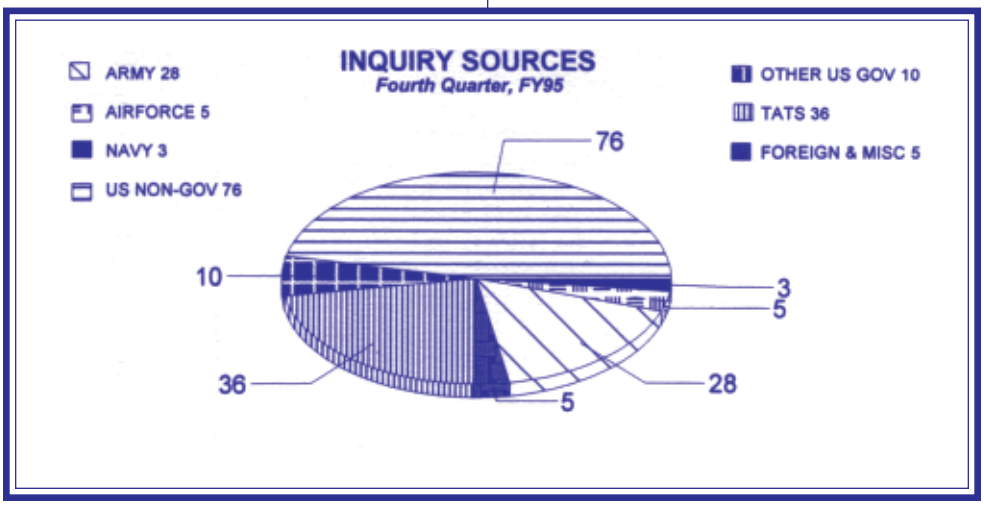
Completed:

Task	Description/Sponsor
6	Provide Technical and Administrative Support to the 4th CB Technology and Intelligence Update Conference USN/NSWC

Underway:

Task	Description/Sponsor
39	Provide Technical Analysis and Support to the Selected Access Collective Protection (SACPS) Installation Training Program and Associated Documentation USN/NSWC
70	Conduct an Engineering Evaluation on LVOSS Discharger Performance and Provide Support to the LVOSS Performance Testing USA/CBDCOM
73	Evaluate and Validate Procedures for CW Material Analysis for Treaty Verification Inspections USA/CBDCOM
74	Determine the Feasibility of Integrating Pressure Swing Adsorption (PSA) Agent Filtration into an Abrams Tank USA/ERDEC
75	Evaluate the MEDTAG III Concept Device, Provide Recommendations for Improvement, and Provide Proof-of-Principle Devices for Evaluation DoD Health Organization
77	Evaluate the Performance of Selected Regenerable HEPA Filters USA/ERDEC
80	Evaluate the Decontamination Process for the USAF Chemical Defense Ground Crew Ensemble USAF/HSC
81	Develop Methods for the Analysis of Chemical Agent Samples in Support of the AMC Treaty Lab USA/CBDCOM

See Ongoing and Recent Activities
Continued on Page 10



CALENDAR OF EVENTS

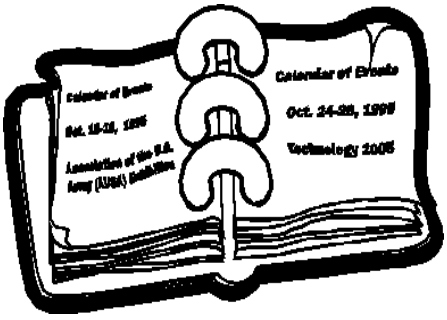
The CBIAC highlights conferences, symposia, meetings, exhibitions and workshops of interest to the CB community in every issue of our newsletter. We invite CBIAC users to submit information on various events to the attention of Elizabeth L. Hamm. She may be reached at the address, phone and fax numbers on the back page of this newsletter, or via the internet: hamme@battelle.org. Due to space limitations, the CBIAC will accept submissions on a first-come, first-served basis and reserves the right to reject submissions.

1995 MEETINGS

Date/Name/Location	Contact(s)
Oct 16-18, 1995 Association of the United States Army (AUSA) Exhibition Washington, DC	AUSA 2425 Wilson Blvd. Arlington, VA 22201 Tel: (703) 841-4300, Ext. 660 Fax: (703) 252-9039
Oct 24-26, 1995 Technology 2005 McCormick Place Convention Ctr. Chicago, IL	National Aeronautics and Space Administration (NASA) Attn: Mr. Michael Weingarten Washington, DC 20546-0001 Tel: (202) 358-1680
Oct 25-27, 1995 The Worldwide Chemical Conference XIV NBC Operations Symposium U.S. Army Chemical School Fort McClellan, Anniston, AL	American Defense Preparedness Association (ADPA) 2101 Wilson Blvd., Suite 400 Arlington, VA 22201-3061 Tel: (703) 522-1820
Oct 30 - Nov 2, 1995 Defense Technical Information Center (DTIC) Annual Users Meeting and Training Conference Stoffer Renaissance Hotel Arlington, VA	DTIC Attn: Ms. Julia Foscue 8725 John J. Kingman Road Suite 0944 Ft. Belvoir, VA 22060-6218 Tel: (703) 767-8222
Oct 31 - Nov 1, 1995 Tank Automotive Command (TACOM) APBI Dearborn, MI	American Defense Preparedness Association (ADPA) 2101 Wilson Blvd., Suite 400 Arlington, VA 22201-3061 Tel: (703) 522-1820
Oct 31 - Nov 3, 1995 COPEX UK Sandown Exhibition Center Esher, Surrey, UNITED KINGDOM	COPEX International Ltd. 33 A Church Road Watford, Herts, WD1 3PY United Kingdom Tel: 44 923 819 301 Fax: 44 923 818 927 Compuserve: 100010.3545
Nov 14-17, 1995 Scientific Conference on Chemical and Biological Defense Research Edgewood Area Conference Center Aberdeen Proving Ground, MD	U.S. Army Edgewood Research, Development and Engineering Ctr. Attn: Ms. Dottie Berg APG, MD 21010-5423 Tel: (410) 671-4883/4144 DSN: 584-4883/4144 Fax: (410) 671-2649
Dec 2-4, 1995 International Conference on Combinatorial Library Methods for Basic Research and Drug Discovery Arizona Health Sciences Ctr. DuVal Auditorium Tucson, AZ	Arizona Cancer Center The University of Arizona Tucson, AZ 85724 Tel: (502) 626-2276 Fax: (502) 626-2284

1996 MEETINGS

Date/Name/Location	Contact(s)
Jan TBD, 1996 AUSA 8th Annual Winter Exposition Orlando, FL	Association of the United States Army (AUSA) 2425 Wilson Blvd. Arlington, VA 22201 Tel: (703) 841-4300, Ext 660 Fax: (703) 252-9039
Mar 26-28, 1996 7th Annual TARDEC Ground Vehicle Survivability Symposium Naval Postgraduate School Monterey, CA	American Defense Preparedness Association (ADPA) 2101 Wilson Blvd., Suite 400 Arlington, VA 22201-3061 Tel: (703) 522-1820
June 24-29, 1996 Eurosatory '96 Land Defence Equipment Paris-Le Bourget, FRANCE	GICAT Comissariat Générale Eurosatory 64 rue Ranelagh 75016 Paris France Tel: 33 1 42 30 71 11 Fax: 33 1 42 30 70 88
Sept, 1996 Night Vision '96 London, UNITED KINGDOM	Shephard Conferences 111 High Street Burnham, Bucks SL1 7JZ United Kingdom Tel: 44 628 604746 Fax: 44 628 664075



SELECTED TECHNICAL RESPONSES

This section of the newsletter contains recent technical inquiries and responses on subjects we feel are of interest to our users. The information presented has been edited to conserve space. If you would like further detail, please contact Steven Jones at the CBIAC and reference the number indicated in parentheses.

Q: *What is the boiling point, viscosity, melting point and vapor pressure of HD? (95-0644)*

A: *The boiling point of HD is 217° C, the viscosity is 3.95 cSt at 25° C, the melting point is 14.45°C, and the vapor pressure is 0.11 mm Hg at 25° C.*

Q: *a. What reports are found in the "Finnish Blue Books" series?*
b. What is the cost for the series?
c. How can it be ordered?

A: *a. The Finnish Blue Book series, formally titled Methodology and Instrumentation for Sampling and Analysis in the Verification of Chemical Disarmament, contains the following 22 published reports:*

A. General Reports

A.1 *Chemical and Instrumental Verification of Organophosphorus Warfare Agents, 1977*

A.2 *Technical Evaluation of Selected Scientific Methods for the Verification of Chemical Disarmament, 1984*

B. Systematic Identification of Chemical Warfare Agents

B.1 *Identification of Organophosphorus Warfare Agents. An Approach for the Standardization of Techniques and Reference Data, 1979*

B.2 *Identification of Degradation Products of Organophosphorus Warfare Agents, 1980*

B.3 *Identification of Non-phosphorus Warfare Agents, 1982*

B.4 *Identification of Precursors of Warfare Agents, Degradation Products of Non-phosphorus Agents, and Some Potential Agents, 1983*

B.5 *Identification of Selected Mycotoxins: Trichothecenes, Aflatoxins, and Related Mycotoxins, 1986*

C. Trace Analysis of Chemical Warfare Agents

C.1 *An Approach to the Environmental Monitoring of Nerve Agents, 1981*

C.2 *Air Monitoring as a Means for the Verification of Chemical Disarmament, Part I. Development and Evaluation of Basic Techniques, 1985*

C.3 *Air Monitoring as a Means for the Verification of Chemical Disarmament, Part II. Field Tests, 1986*

C.4 *Air Monitoring as a Means for the Verification of Chemical Disarmament, Part III. Further Development and Testing of Methods, 1987*

D. Standard Operating Procedures for the Verification of Chemical Disarmament

D.1 *A Proposal for Procedures Supporting the Reference Database, 1988*

D.2 *Second Proposal for Procedures Supporting the Reference Database, 1989*

E. Computer-Aided Techniques for the Verification of Chemical Disarmament

E.1 *Verification Database, 1988*

F. International Interlaboratory Comparison (Round-Robin) Test for the Verification of Chemical Disarmament

F.1 *Testing of Existing Procedures, 1990*

F.2 *Testing of Procedures on Simulated Industry Samples, 1991*

F.3 *Testing of Procedures on Simulated Military Facility Samples, 1992*

F.4 *Validating of Procedures for Water and Soil Samples, 1993*

G. Training Program in Analytical Methods and Instrumentation for the Verification of Chemical Disarmament

G.1 *Basic Course, 1991*

H. Interlaboratory Comparison Test Coordinated by the Provisional Technical Secretariat for the Preparatory Commission for the Organization for the Prohibition of Chemical Weapons

H.1 *First Interlaboratory Comparison Test, 1994*

Monographs

Recommended Operating Procedures for Sampling and Analysis in the Verification of Chemical Disarmament, 1993 Edition and 1994 Edition

b. The cost is $20 per book or $400 for the entire series. Shipping and handling by air mail is $100 U.S. dollars for the entire set.

c. You can order the reports by using electronic mail [rautio@cc.helsinki.fi (at ~ Internet)] or fax (358-0-19140437).

CB NEWS EXCERPTS

In order for the CBIAC to inform its readers of recent Chemical/Biological Defense activity throughout the United States and around the world we have compiled a list of related CB news articles and have taken excerpts from them to create brief overviews. Please note that the CBIAC does not provide secondary distribution of articles. We can, however, provide direction on where to find an article of interest.

.

Birch, Douglas. *"At Fort Detrick, Scientists Target Ebola Virus." The Sun, 11 Jun 95. Two scientists from the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) will join nine others from the U.S. Centers for Disease Control and Prevention in Zaire to research the ebola virus. A total of ten scientists at the virology division of USAMRIID are working on developing a faster identification test or are testing commercially developed drugs, specifically those which now are experimental in the treatment of Respiratory Syncytial Virus (RSV), but they ultimately will try to develop a vaccine against the virus which has a fatality rate of 80 to 90 percent.*

Sharn, Lori. *"Probe Aims at Sale of Deadly Bacteria." USA Today, 11 Jul 95. Currently there are no federal laws which prohibit the sale of potentially deadly biological materials. Frank Young, Director of the Public Health Service's Emergency Preparedness Office cited one lab in Rockville, MD which preserves and sells samples of microorganisms for standardized scientific research, but recently provided yersinia pestis to a civilian in Ohio. Kyle Olson, of the Chemical and Biological Arms Control Institute in Alexandria, VA, points out that "weaponization" is the most difficult aspect of transforming a particular toxin into an effective threat.*

Associated Press. *"Pentagon Study Finds No Gulf War Malady Claimed by Veterans, Relatives." The Sun, 2 Aug 95. The results of the detailed examinations of 10,020 veterans and family members, a sample which represents 1.4% of the almost 700,000 veterans of the Persian Gulf War, has led to the Defense Department's first formal announcement that no single malady exists that is unique to the Persian Gulf War. Dr. Stephen Joseph, Assistant Secretary of Defense for Health described 19% of ailments reported as "garden variety psychological symptoms and conditions."*

Ness, Leyland. *"Preparing for the Worst." Jane's Defence Weekly, 3 Jun 95. The Joint Program Office for Biological Defense (JPO-BD) has created an important initiative for developing criteria in the biodetection arena, a standardized test and evaluation regime for components. Annual testing at Dugway Proving Ground will provide data so that technologies can be categorized into three categories: nominated for incorporation; returned to the development phase; and abandoned. The goal of the JPO-BD is to field "a theatre-level joint biological point detection suite by FY2001."*

Starr, Barbara. *"Nightmare in the Making." Jane's Defence Weekly, 3 Jun 95. The CIA has published a report naming 400 companies worldwide that manufacture dual-use equipment that would be needed to make weapons agents. The list is not accusatory in nature, but details the specific types of reactor vessels, fermenters, storage tanks, and other signal items which could be used in the chemical and biological weapons arenas. The report also offers basic information about 54 precursor chemicals, ratios of unit of precursor to unit of agent, and their effects.*

Smith, Jeffrey. *"U.S. Accuses China of Germ Weapons Work." The Washington Post, 15 Jul 95. In a report released by the Arms Control and Disarmament Agency (ACDA), the Clinton administration uses a "harder edge" to restate what intelligence agencies reported in June 1994; that China is violating the international 1972 Biological and Toxin Weapons Convention. Beijing's detention of Harry Wu, and refusal to discuss its alleged sale of missiles and related equipment to Pakistan and Iran only heightens the concerns. Two research centers that are controlled by Chinese military (ostensibly civilian-run) continue to conduct biological research for military offensive purposes, and China still has not given an accurate report of past germ weapons work to the United Nations, as required under a United Nations resolution.*

Taoka, Shunji. *"Promote Quick Ratification of the Chemical Weapons Treaty." AERA (Shima Media Network), WWW, 3 Apr 95. On March 30, the lower house of Japan's Diet passed a law, introduced to them on March 10, which the upper house had already passed, providing sentences of up to one year for holding prohibited substances without a license and up to seven years for keeping dangerous substances if prosecutors can establish that the purpose was to manufacture chemical weapons. One reason it became necessary to make quick revisions to the law was the uncertainty surrounding the date that the international chemical weapons treaty will be ratified. Another reason undoubtedly involves the toxic gas incidents that occurred during the time the Diet was reviewing and revising the proposed law.*

The Defense Technical Information Center (DTIC) will present its Annual Users Meeting and Training Conference on 30 October through 2 November 1995. The conference will be held at the Stouffer Renaissance Hotel, Arlington, VA. This year's conference will include a variety of speakers and sessions addressing the numerous types of information available to the Department of Defense community through the Internet as well as from DTIC and other government agencies. DTIC's latest products and services will be highlighted in the Exhibit area. For further information, contact Ms. Julia Foscue at (703) 767-8222.

The Chemical Stockpile Emergency Preparedness Program (CSEPP)

Ms. Donna Shandle was appointed to her current position as Executive Director of the Chemical Stockpile Emergency Preparedness Program (CSEPP) in June, 1994 by Major General George Friel, Commanding General of the U.S. Army Chemical and Biological Command (CBDCOM). Prior to her most recent appointment, Ms. Shandle served as the Deputy Director of Engineering at CBDCOM's Edgewood Research, Development and Engineering Center (Edgewood RDEC).

The Chemical Stockpile Emergency Preparedness Program (CSEPP) is responsible for the Army's emergency response planning for an accidental chemical agent release. The CSEPP program began in 1986 and was originally administered and executed by the Office of the Assistant Secretary of the Army (Installation, Logistics and Environment). The Federal Emergency Management Agency has been the Army's partner in executing CSEPP since 1988, helping the state and local governments to develop and coordinate emergency preparedness and response capabilities. Several other federal agencies such as the U.S. Department of Health and Human Services, the Environmental Protection Agency and the U.S. Department of Agriculture support the program.

As part of the Army's effort to consolidate the management of its chemical programs, as well as the responsibility for the chemical stockpiles, CSEPP was chartered to the Chemical and Biological Defense Command in October, 1994. Prior to that date, each installation shouldered the responsibility for that individual stockpile. In June, 1994, Donna Shandle was named as the Executive Director of CSEPP.
In an article that appeared in the APG News, April 19, 1995, Donna Shandle's career history and the personal philosophy she brings to her role as the Executive Director of the CSEPP program were highlighted. Getting the team organized and hiring necessary personnel have been some of Donna's first priorities. The U.S. Army Defense Ammunition Center and School (USADACS), headquartered in Savannah, Illinois, was responsible for the execution of CSEPP exercises and training. Now that the Edgewood team is responsible for CSEPP, the exercise mission and key personnel have been transferred, but as a result of a transitional agreement, USADACS will continue to assist with CSEPP training and other support activities. Additional goals of CSEPP's Executive Director include rereading the original Congressional language and program documents that guide CSEPP in an effort to clarify past interpretations, revamping the exercises so that communities will drill for a more realistic threat, focusing on discipline in management of resources and the CSEPP budget, and improving community relations. There is plenty of time for CSEPP to accomplish its goals; CSEPP is going to exist until each of the U.S. chemical weapons stockpiles are eliminated.

Thoughts from the Pentagon

Continued from Page 2

As a point of interest, the Army has made a decision to proceed with an award for the Anniston demilitarization program. The award, which has been delayed due to environmental permit problems, will be issued with a "limited notice to proceed" clause in the contract.

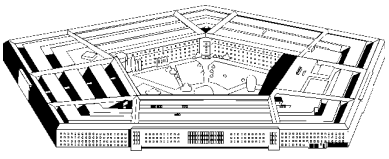
CW/BW ARMS CONTROL

The Chemical Weapons Convention (CWC) was negotiated over a period of 24 years (1968-1992) in Geneva and opened for signature in Paris in 1993. The CWC is commonly recognized as the most intrusive arms control instrument ever negotiated. It provides a rigorous verification regime, including mandatory declarations of certain chemical-related activities, routine inspections to verify declarations, and challenge inspections to resolve CWC compliance.

To date, the CWC has been signed by 159 nations and ratified by 36 nations. The U.S. Senate is now considering the CWC for ratification by the U.S. Six months following ratification by 65 nations, the CWC will formally enter into force (EIF) worldwide. It is now projected that the Senate will ratify the CWC before the end of the current Congressional session and that EIF will occur in June 1996.

The CWC Preparatory Commission (PrepCom) conducts ongoing consultations in the Hague, The Netherlands to develop and refine procedures for implementation of the CWC. The CWC PrepCom will be replaced by the Organization for the Prohibition of Chemical Weapons (OPCW) after EIF of the CWC.

As a final thought, I'm pleased to announce that we're getting some high quality help in this program with the assignment of Mr. Richard Donnelly to our office. Mr. Donnelly will assume responsibility as my civilian deputy and will be taking the lead in CW treaty implementation. He comes to us from an assignment with the Commission for Improving Government.



CONTRACT AWARDS

1. Long Range Biological Standoff Detection System (LR-BSDS).
Schwartz Electro-Optics
1404 North Orange Blossom Trail
Orlando, FL 32804
$3,000,000. 23 May 1995

2. Short Range Biological Standoff Detection System (SR-BSDS).
Fibertek Inc.
510 Herndon Parkway
Herndon, VA 22070
$3,400,000. 23 May 1995

3. CAM Maintenance and Maintenance Training.
Graseby Ionics, UK
$130,000+. August 1995

4. Portable Toxic Gas Analyzer.
Environmental Chemical Corp.
1240 Bayshore Highway, Suite 300
Burlington, CA 94010
$103,584. 9 June 1995

5. Survivability Integration-Force Survivability and Weapons of Mass Destruction.
Science Applications International Corporation
Research and Development Division
10260 Campus Point Drive
San Diego, CA 92121
$1,598,402. 14 July 1995

6. Detector Kit, Chemical
Canadian Commercial Corporation
50 O'Connor Street, 11th Floor
Ottawa, Ontario Kia 0S6 (0262)
$487,050 22 September 1995

7. Fabrication and Delivery of 9,634 CAM Buzzers.
Centech Group, Inc.
4200 Wilson Boulevard, Suite 700
Arlington, VA 22203
$767,155. 19 September 1995

8. Production of Nucleic Acid Probe and Polymerase Chain Reaction Technologies for Detection and Characterization of Agents of Biological Origin.
Science & Technology Corp.
101 Research Drive
Hampton, VA 23666-1340
$233,617. 19 September 1995

Ongoing and Recent Activities

Continued from Page 5

82 Evaluate Suitability of Transporting Dilute Chemical Agent IAW DOT Commercial Toxic Materials Regs
USA/ERDEC

86 Assess USAF Chemical Ensemble Requirements, Procedures and Systems
USAF/HSC

90 Provide the AMC Executive Agent for Treaty Compliance Technical Support by Clarifying Questions and Information
USA/AMC

91 Analyze Potential Lethality of Navy Solid Reactive Materials Against Biological and Chemical Agents
USN/NSWC

93 Conduct an Independent Review and Assessment of ERDEC's Long Range CB S&T Planning
USA/ERDEC

94 Determine the Effect of GB Vapor on Propellant Stabilizer 2-NDPA
USA/CDRA

97 Analyze the Capabilities of and Requirements Levied on the AMCTL and Develop a Strategic Plan to Meet Those Needs
USA/CBDCOM

104 Evaluate the USAF Air Crew Eye Respiratory Protective (AERP) System to Determine if it Meets Design Requirements
USAF/HSC

105 Investigate and Evaluate Methods to Integrate Electronic CB Repositories within AMC to More Efficiently Handle Information Requests.
USA/AMC

CBIAC STATISTICS

Contract Cumulative (since October 1, 1994)

Total CBIAC documents accessible through DTIC DROLS: 6,733

Shared[1]: 3,656 Unique[2]: 3,077

Total documents added to the CBIAC UDB:

Acquired: 1,174
Reviewed: 34
Cataloged: 1,279

Total document citations available through the CBIAC UDB: 45,216

Total documents on site: 23,721

Total inquiries received: 806

Technical: 184
Informational: 190
Bibliographic: 405
Referral: 27

Total TATs awarded: 65

Completed: 2
Ongoing: 63

Total newsletter subscribers: 2,188

1 Existing DTIC records appended with CBIAC terms
2 New DTIC records created by the CBIAC

To Place an Ad in CBIAC News...

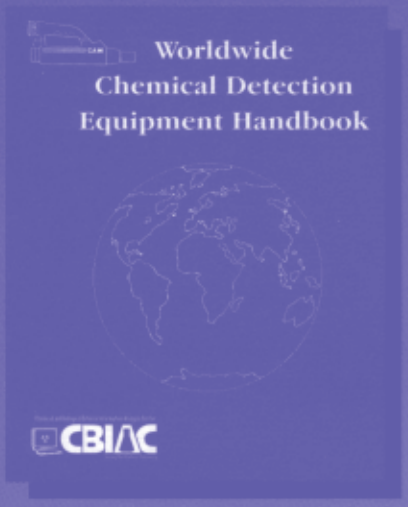
The CBIAC is now accepting paid advertisements from the chemical and biological defense community. Our general policy is to include ads pertaining to scientific and engineering equipment and services and other commodities generally related to the mission and scope of the CBIAC. All advertisements are subject to approval by our COTR before being printed. If you would like to run an ad, please contact Judith M. Shetterly for additional information on price and policy.

Chemical and Biological Defense Information Analysis Center

CBIAC

Serving the CB Defense Community

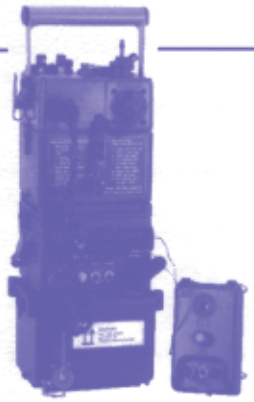
WORLDWIDE CHEMICAL DETECTION EQUIPMENT HANDBOOK



A hardcover book consisting of over 400 pages containing detailed drawings, photographs and illustrations, many in color:

- Provides a valuable resource for engineers and scientists involved in CB R&D efforts, the intelligence community, the Chemical Weapons Convention (CWC) verification community, equipment evaluators, foreign Governments and embassies, news media, military libraries and information centers
- Includes active and passive standoff detection technologies as well as the following point detection technologies: ionization/ion mobility, flame photometry, mass spectrometry, photoacoustic infrared spectroscopy, electrochemistry, and enzyme and wet chemistry reactions used in detection kits, tickets and papers
- Documents physical and performance specifications for over 90 CB detectors
- Incorporates nearly 100 individual contributions from world renowned experts in CB defense
- Presents data on CB detection equipment from 20 countries representing NATO, the former Warsaw Pact and nonaligned nations
- Cross-references equipment by country, manufacturer, technology and alphabetical
- Summarizes in table format agents detected by each item

AVAILABLE IN OCTOBER 1995



ORDERING INFORMATION

Special Introductory Offer

Orders received or postmarked on or before September 30, 1995

$249.95 per copy/
$199.95 for additional copies to the same purchaser (U.S. dollars only)

Regular Price (After September 30, 1995)

$299.95 per copy/
$249.95 for additional copies to the same purchaser (U.S. dollars only)

For more information please phone, FAX, write, or E-Mail

Battelle Edgewood Operations
Attn: CBIAC, Judith M. Shetterly
Worldwide Chemical Detection Equipment Handbook
P.O. Box 196
Gunpowder Br. APG, MD 21010-0196
Telephone: *(410) 676-9030*
FAX: *(410) 676-9703*
E-Mail: *shetterj@battelle.org*

ORDER FORM

		Cost
_____	Worldwide Chemical Detection Equipment Handbook	$_____
_____	Additional copies (to same purchaser)	$_____
	Total Cost	$_____

Pre-publication orders will be delivered after September 30, 1995. All other orders, please allow 4 to 6 weeks for delivery. Handbooks will be delivered after receiving full payment. Price includes tax.

Full Name: _____ **Prefix:** _____
(Last, First, Middle Initial) *(DTC, CPT, Ms., Dr., etc.)*

Mail Title: _____ **Code:/Attn:** _____
(Commander, Headquarters, Director, etc.) *(Letter Code, SMCCR-CCR, AID/FXX, etc.)*

Organization: _____
(Agency, Command, U.S. Army, USAF, etc.)

Address: _____

_____

City: _____ **State:** _____ **Zip:** _____ **Country:** _____

Telephone: (____) _____ **FAX:** (____) _____

E-Mail Address: _____

Payment Method (Please indicate):

☐ **Check/Money Order** (Make payable to Battelle — U.S. dollars only, please)

☐ **Purchase Order** (P.O.'s only accepted from U.S. government agencies. Please attach documentation.) _____
(Purchase Order Number)

☐ **Credit Card**

☐ VISA
☐ Mastercard
☐ American Express

Credit Card Number

Signature *Exp. Date*

Battelle Edgewood Operations, CBIAC, Judith M. Shetterly, P.O. Box 196, Gunpowder Br. APG, MD 21010-0196

The **CBIAC NEWSLETTER** *is a quarterly publication of the* **Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC).** *The* **CBIAC** *is a* **Department of Defense (DoD) Information Analysis Center (IAC), administratively managed by the Defense Technical Information Center (DTIC) under the DoD IAC Program.** *The Contracting Officer's Technical Representative is Mr. Joseph Williams. He may be reached at:*

Technical Director, ERDEC
Attn: SCBRD-RTA *(Joseph Williams)*
APG-EA, MD *21010-5423*
Tel: *(410) 671-4878* **Fax:** *(410) 671-2649*
DSN: *584-4878*
Internet: *jdwillia@apgea.army.mil.*

Government agencies and private industry under contract to the **Department of Defense** *can contact the* **CBIAC** *which serves as a center for the acquisition, compilation, analysis and dissemination of information relevant to chemical warfare and chemical and biological defense technology.* **The CBIAC** *staff is available to answer questions from 7:00 a.m. to 5:00 p.m,* **EST.**

The **CBIAC** *is located in* **Building E3330, Aberdeen Proving Ground-Edgewood Area, Maryland 21010.**

The **CBIAC** *mailing address is shown below:*

CBIAC
P.O. Box *196*
Gunpowder Branch APG, MD *21010-0196*
Tel: *(410) 676-9030* **Fax:** *(410) 676-9703*

CBIAC
P.O. Box *196*
Gunpowder Branch APG, MD *21010-0196*

Non-Profit
U.S. Postage
Paid
Edgewood, MD
Permit No. *14*